



Department of Energy

Idaho Operations Office
850 Energy Drive
Idaho Falls, Idaho 83401-1563

January 29, 1997

M. Pangel
FR OU 4-12
1135.3.38

ERM - PMC IDAHO FALLS

JAN 31 1997

FRICK A. HULSE

Mr. Wayne Pierre, Team Leader
Environmental Cleanup Office
U. S. Environmental Protection Agency Region X
1200 Sixth Avenue
Seattle, WA 98101

Mr. Dean Nygard, Acting Bureau Chief
Idaho Department of Health and Welfare Division of Environmental Quality
Community Services
1410 North Hilton
Boise, ID 83706-1255

SUBJECT: Transmittal of Corrected Pages for the Post Record of Decision Monitoring Plan for Central Facilities Area Landfills I, I, and III, Operable Unit 4-12 - (OPE-ER-06-97)

Dear Mr. Pierre and Mr. Nygard:

You will find enclosed the subject corrected pages for the Post-Record of Decision (Post-ROD) Monitoring Plan for the Central Facilities Area (CFA) Landfills, Operable Unit (OU) 4-12 at the Idaho National Engineering Laboratory (INEL). The following pages comprise the corrections and incorporate the Idaho Department of Health and Welfare (IDHW) - Division of Environmental Quality comments received on November 7, 1996: pages 5-1, 5-2, 5-3, and 5-4 of the monitoring work plan (OU 4-12, Monitoring WP, INEL-95/0579) and pages 4-1 and 4-2 of the monitoring plan (OU 4-12, Post-ROD MP, INEL-95/0585), as well as revised pages for the Sampling and Analysis Plan (SAP) tables.

The pump suction elevations referenced in the IDHW comments, Comment #5, were obtained from various records with varying degrees of uncertainty with the associated pump suction elevations. The SAP table has been revised to reflect these approximate depths.

These corrected pages are provided for your information and to bring your copies of the document up to date.

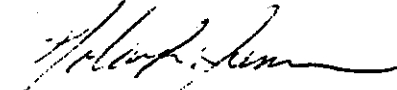
Mr. Pierre
Mr. Nygard

-2-

January 29, 1997

If you have any questions regarding this matter or desire additional copies of the enclosure, then please contact me at (208) 526-0436 or Alan J. Dudziak of my staff at (208) 526-7027.

Sincerely,



Nolan R. Jensen, Acting Manager
Environmental Restoration Program

Enclosure

cc: H. Orlean, EPA, ECL-113, 1200 Sixth Avenue, Seattle, WA 98101 (w/2)
D. Hovland, IDHW, 1410 N. Hilton, Boise, ID 83706 (w/2)
M. S. Rosenberger, IDHW EIRO, 900 North Skyline, Suite B,
Idaho Falls, ID 83402 (w/3)

SECTION 5

GROUNDWATER MONITORING

5.1 Groundwater Monitoring Objectives

The objectives of groundwater monitoring at the CFA Landfills are to:

- Provide data to evaluate potential leaching of contaminants to the Snake River Plain Aquifer,
- Establish a baseline of potential contaminant concentrations in the aquifer against which future data could be compared.
- Monitor the groundwater flow direction in the vicinity of the landfills.

Potential contaminant impacts to the aquifer from the CFA Landfills will be assessed through the collection of groundwater samples from existing groundwater wells in the vicinity of the landfills.

5.2 Existing Groundwater Monitoring System

A series of groundwater monitoring wells exist within the vicinity of the CFA; specific monitoring wells in the immediate vicinity of the included wells are identified as LF2-8 through LF2-12 and LF3-8 through LF3-11. Additional monitoring wells up gradient of the CFA Landfills include United States Geological Survey (USGS) monitoring wells 20, 34 through 39, 57, 77, 82, 85, and 111 through 116. Three additional wells downgradient of CFA include CFA-MON-001, CFA-MON-002 and CFA-MON-003. Production wells used for sample collection downgradient of the landfills include CFA-1 and CFA-2. Locations of the groundwater monitoring wells are shown on Figure 5-1. Well construction details for the groundwater wells are included in the CFA Landfills RI/FS report (Keck, et al., 1994) and in the Comprehensive Well Survey report (Sehlke, et al., 1992).

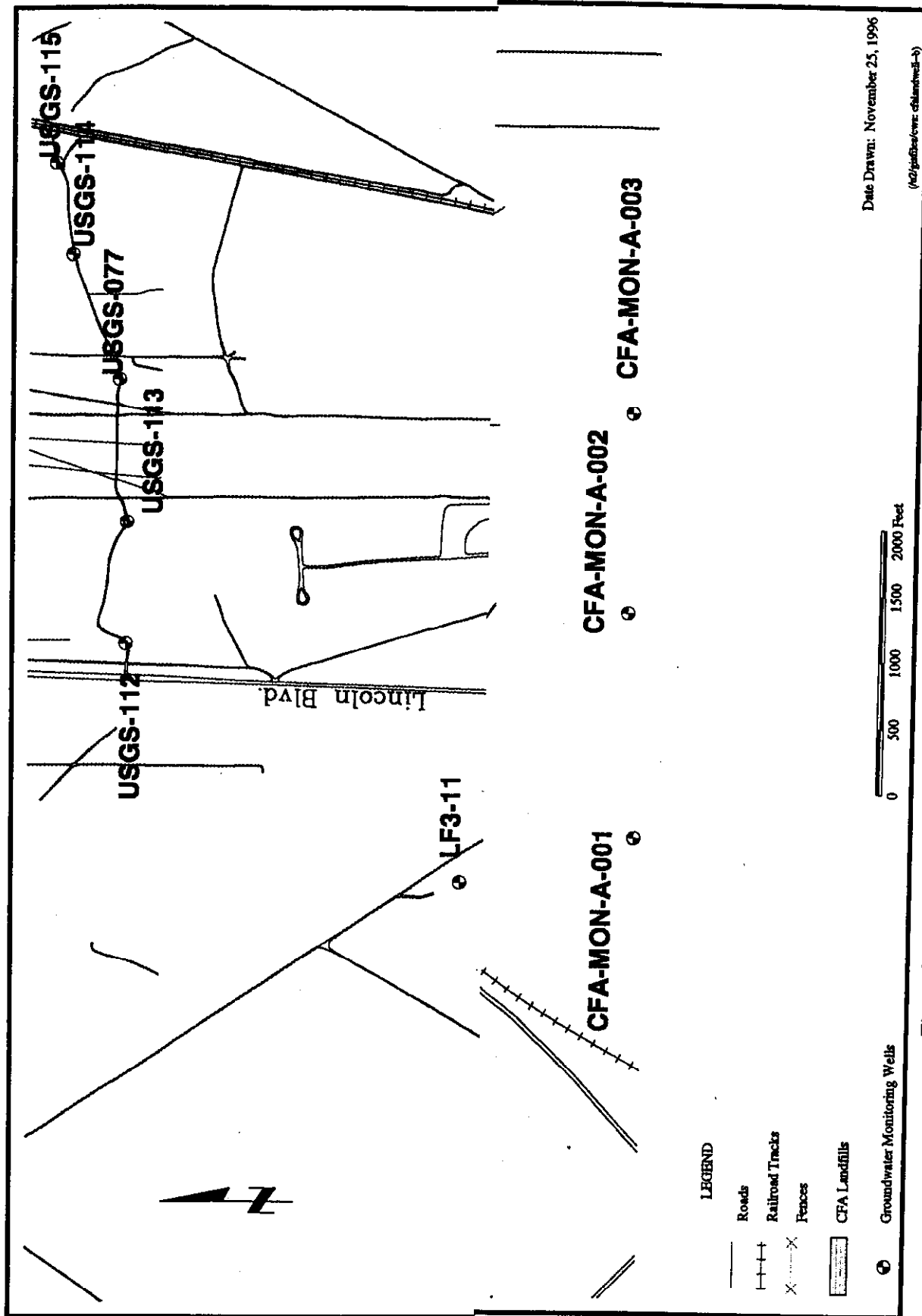


Figure 5-1 - Groundwater Monitoring Well Locations at CFA Landfills I, II, and III

5.3 Groundwater Monitoring System Modifications

At this time, no additions to the existing groundwater monitoring system are planned, although the possible advantages of adding another groundwater monitoring well down gradient from Landfill I have been evaluated. All parties agreed, however, to increasing the level of vadose zone monitoring through the installation of additional soil gas sampling boreholes rather than installing the downgradient monitoring well. The need for additional monitoring well(s) will be reevaluated should future vadose zone or groundwater monitoring indicate that contaminants are leaching from the landfills.

In addition, monitoring wells LF2-12 and LF3-11, used during the RI, are obstructed due to pumps which have become lodged inside of the well casings. Repeated attempts to remove the obstructions have been unsuccessful. In both wells, the obstructions are in the casing above the water table and neither well can be sampled. LF2-12 is considered irreparable and will be abandoned. Additional attempts to remove the obstruction in LF3-11 will be made. If the repair of LF3-11 is successful, it will be added to the list of wells to be sampled under this monitoring plan. If LF3-11 cannot be repaired, it will be abandoned. Because of its uncertain status as a monitoring point, LF3-11 is not included for sampling in this monitoring plan.

5.4 Groundwater Monitoring Data Collection

Groundwater elevation data will be collected from a total of 28 wells surrounding the CFA Landfills. Wells to be measured are included in Table 5-1.

Table 5-1 - Wells for Groundwater Elevation Data Collection

Well Name	Well Name	Well Name	Well Name
LF2-8	LF3-10	USGS 38	USGS 111
LF2-9	USGS 20	USGS 39	USGS 112
LF2-10	USGS 34	USGS 57	USGS 113
LF2-11	USGS 35	USGS 77	USGS 114

SECTION 4

SAMPLING LOCATION AND FREQUENCY

The material presented in this section is intended to support the DQOs summarized in Section 3. A summary of the sampling schedules for two-year intensive monitoring and long term monitoring is presented in the *Post Record of Decision Monitoring Work Plan Central Facilities Area Landfills I, II, and III Operable Unit 4-12* (INEL-95/0579) (*monitoring work plan*). Sample and Analysis Plan tables for the soil gas and groundwater analyses are provided in Attachment A of the FSP. QA/QC samples to be collected are tabulated in Attachment B. These tables will aid in the sample labelling and tracking. All activities outlined in this FSP will be carried out in accordance with applicable health and safety regulations and requirements as discussed in the Health and Safety Plan for this project.

4.1 Sampling Locations

4.1.1 Infiltration Monitoring

Infiltration monitoring consists of:

- The installation and logging of the TDR array at CFA Landfills I & II,
- Neutron probe logging of the existing five Neutron Probe Access Tubes (NPAT).

A schematic of the NPATs and the location of the existing NPATs are specified in Section 3.0 of the *monitoring work plan* for the CFA. The depths for the five NPATs are provided in Table 4-1, below.



December 17, 1996

Mr. R. P. Wells
Parsons Engineering Science, Inc.
P.O. Box 1625, MS 3954
Idaho Falls, ID 83415

DELIVERY OF REVISIONS 6.0 OF THE SAMPLING AND ANALYSIS PLAN (SAP)
TABLE FOR THE QUARTERLY POST RECORD OF DECISION (ROD) MONITORING OF
CENTRAL FACILITIES AREA NORTH (CFA) LANDFILLS I/II/III - FISCAL YEARS (FY)
1996 THROUGH 1998 AND REVISIONS 5.0 OF THE SAP TABLES FOR THE POST ROD
MONITORING OF CFA LANDFILLS I/II/III FOR FY-99 THROUGH FY-2001 - ADC-58-96

Dear Mr. Wells:

Enclosed please find revisions 6.0 of the sampling and analysis plan tables for the Post ROD
Monitoring of CFA Landfills I/II/III - the last two quarters of FY96 and the four quarters of FY
97 and 98 and revisions 5.0 of the SAP tables for the Post ROD Monitoring of CFA Landfills
I/II/III for FY99 through FY2001. As per your request, the sample depths were changed on each
of the tables to reflect the approximate depths encountered during the last sampling activity.
Please review the tables carefully and let me know if additional modifications are needed.

Sincerely,

A. D. Chapman
Sample Management Office

ADC

Enclosure

cc: D. M. Funk, LMITCO, MS 3910
F. M. Gossweiler, LMITCO, MS 3910
S. A. Hoiland, LMITCO, MS 3910
D. Jones, LMITCO, MS 3910
C. S. Watkins, LMITCO, (w/o Encl), MS 3910 *JMC for*
ARDC Files, MS 3922
File Code 6404, (w/o Encl)

Date: 12/17/96

Project: OU 4-12 POST ROD MONITORING-CFA LANDFILLS 1/11/111-JUL 1996

Page 1 of 1

Form No: SAP11B

The sampling activity displayed on this table represents the first six characters of the sample identification number. The complete sample identification number (10 characters) will appear on field guidance forms and sample labels.

AT1: Alkalinity

AT2: CLP Metals

AT3: Chloride/Fluoride/Sulfate

AT4: Nitrate/Nitrite

AT5: Gamma Screen

AT6: VOCs by GC/MS (8260) - MS/MSD

AT7: VOCs by GC/MS (8260)

AT8:

AT9:

AT10:

AT11: _____
AT12: _____
AT13: _____
AT14: _____
AT15: _____
AT16: _____
AT17: _____
AT18: _____
AT19: _____
AT20: _____

Plan Table Number: OU4-12-LF-GW2

SAP Number: _____

Date: 12/17/96Plan Table Revision: 6.0

SAMPLING AND ANALYSIS PLAN TABLE FOR CHEMICAL AND RADIOLOGICAL ANALYSIS

Project: OU 4-12 POST ROD MONITORING-CFA LANDFILLS I/II/III-OCT 1996Project Manager: G. B. COTTENPage 1 of 1

Form No: SAP118

SAMPLE DESCRIPTION						SAMPLE LOCATION				ENTER ANALYSIS TYPES (AT) AND QUANTITY REQUESTED																			
SAMPLING ACTIVITY	SAMPLE TYPE	MEDIA	COLL TYPE	SAMPLING METHOD	PLANNED DATE	AREA	LOCATION	TYPE OF LOCATION	DEPTH (ft)	AT1	AT2	AT3	AT4	AT5	AT6	AT7	AT8	AT9	AT10	AT11	AT12	AT13	AT14	AT15	AT16	AT17	AT18	AT19	AT20
										A1	C1	F3	N2	R5	VF	VG													
4HQ050	REG	GROUND WATER	GRAB		10/10/96	CFA	LF 2-8	AQUIFER WELL	~486	1	1	1	1	1		1													
4HQ051	REG	GROUND WATER	GRAB		10/10/96	CFA	LF 2-9	AQUIFER WELL	~486	1	1	1	1	1		1													
4HQ052	REG	GROUND WATER	GRAB		10/10/96	CFA	LF 2-11	AQUIFER WELL	~480	1	1	1	1	1	1														
4HQ053	REG/OC	GROUND WATER	DUP		10/10/96	CFA	LF 3-8	AQUIFER WELL	~503	2	2	2	2	1		2													
4HQ054	REG	GROUND WATER	GRAB		10/10/96	CFA	LF 3-9	AQUIFER WELL	~495	1	1	1	1	1		1													
4HQ055	REG	GROUND WATER	GRAB		10/10/96	CFA	LF 3-10	AQUIFER WELL	~494	1	1	1	1	1		1													
4HQ056	REG	GROUND WATER	GRAB		10/10/96	CFA	USGS-85	AQUIFER WELL	~514	1	1	1	1	1		1													
4HQ057	REG	GROUND WATER	GRAB		10/10/96	CFA	LF 2-10	AQUIFER WELL	~547	1	1	1	1	1		1													
4HQ058	QC	WATER	FBLK		10/10/96	CFA	QC	FIELD BLANK	N/A			1				1													
4HQ059	QC	WATER	RNST		10/10/96	CFA	QC	RINSATE	N/A	1	1	1	1			1													
4HQ060	QC	WATER	TBLK		10/10/96	CFA	QC	TRIP BLANK	N/A							2													
4HQ061	REG	GROUND WATER	GRAB		10/10/96	CFA	CFA-MON-001	AQUIFER WELL	~512	1	1	1	1	1		1													
4HQ062	REG	GROUND WATER	GRAB		10/10/96	CFA	CFA-MON-002	AQUIFER WELL	~512	1	1	1	1	1		1													
4HQ063	REG	GROUND WATER	GRAB		10/10/96	CFA	CFA-MON-003	AQUIFER WELL	~494	1	1	1	1	1		1													

The sampling activity displayed on this table represents the first six characters of the sample identification number.
The complete sample identification number (10 characters) will appear on field guidance forms and sample labels.

COMMENTS

AT1: Alkalinity
AT2: CLP Metals
AT3: Chloride/Fluoride/Sulfate
AT4: Nitrate/Nitrite
AT5: Gamma Screen
AT6: VOCs by GC/MS (8260) - MS/MSD
AT7: VOCs by GC/MS (8260)
AT8: _____
AT9: _____
AT10: _____

AT11: _____
AT12: _____
AT13: _____
AT14: _____
AT15: _____
AT16: _____
AT17: _____
AT18: _____
AT19: _____
AT20: _____

Date: 12/17/96

Plan Table Revision: 6.0

SAMPLING AND ANALYSIS PLAN TABLE FOR CHEMICAL AND RADIOLOGICAL ANALYSIS

Project: OU 4-12 POST ROD MONITORING-CFA LANDFILLS I/II/III-JAN 1997

Project Manager: G. B. COTTEN

Page 1 of 1

Form No: SAP11B

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The sampling activity displayed on this table represents the first six characters of the sample identification number. The complete sample identification number (10 characters) will appear on field guidance forms and sample labels.

COMMENTS

AT1: Alkalinity

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AT8: _____

AT9: _____

AT10: _____

AT11: _____

AT12: _____

AT13: _____

AT14: _____

AT15: _____

AT16: _____

AT17: _____

AT18: _____

AT19: _____

AT20: _____

Plan Table Number: OU4-12-LF-GW4

SAP Number:

Date: 12/17/96Plan Table Revision: 6.0

SAMPLING AND ANALYSIS PLAN TABLE FOR CHEMICAL AND RADIOLOGICAL ANALYSIS

Project: OU 4-12 POST ROD MONITORING-CFA LANDFILLS 1/11/III-APR 1997Project Manager: G. B. COTTENPage 1 of 1

Form No: SAP118

SAMPLE DESCRIPTION					PLANNED DATE	SAMPLE LOCATION				ENTER ANALYSIS TYPES (AT) AND QUANTITY REQUESTED																			
SAMPLING ACTIVITY	SAMPLE TYPE	MEDIA	COLL TYPE	SAMPLING METHOD		AREA	LOCATION	TYPE OF LOCATION	DEPTH (ft)	AT1	AT2	AT3	AT4	AT5	AT6	AT7	AT8	AT9	AT10	AT11	AT12	AT13	AT14	AT15	AT16	AT17	AT18	AT19	AT20
										A1	C1	F3	N2	R5	VF	VG													
4MQ150	REG	GROUND WATER	GRAB		04/10/97	CFA	LF 2-8	AQUIFER WELL	"486	1	1	1	1	1		1													
4MQ151	REG	GROUND WATER	GRAB		04/10/97	CFA	LF 2-9	AQUIFER WELL	"486	1	1	1	1	1		1													
4MQ152	REG	GROUND WATER	GRAB		04/10/97	CFA	LF 2-11	AQUIFER WELL	"480	1	1	1	1	1	1														
4MQ153	REG/QC	GROUND WATER	DUP		04/10/97	CFA	LF 3-8	AQUIFER WELL	"503	2	2	2	2	1		2													
4MQ154	REG	GROUND WATER	GRAB		04/10/97	CFA	LF 3-9	AQUIFER WELL	"495	1	1	1	1	1		1													
4MQ155	REG	GROUND WATER	GRAB		04/10/97	CFA	LF 3-10	AQUIFER WELL	"494	1	1	1	1	1		1													
4MQ156	REG	GROUND WATER	GRAB		04/10/97	CFA	USGS-85	AQUIFER WELL	"514	1	1	1	1	1		1													
4MQ157	REG	GROUND WATER	GRAB		04/10/97	CFA	LF 2-10	AQUIFER WELL	"547	1	1	1	1	1		1													
4MQ158	QC	WATER	FBLK		04/10/97	CFA	QC	FIELD BLANK	N/A		1					1													
4MQ159	QC	WATER	RNST		04/10/97	CFA	QC	RINSATE	N/A	1	1	1	1			1													
4MQ160	QC	WATER	TBLK		04/10/97	CFA	QC	TRIP BLANK	N/A							2													
4MQ161	REG	GROUND WATER	GRAB		04/10/97	CFA	CFA-MON-001	AQUIFER WELL	"512	1	1	1	1	1		1													
4MQ162	REG	GROUND WATER	GRAB		04/10/97	CFA	CFA-MON-002	AQUIFER WELL	"512	1	1	1	1	1		1													
4MQ163	REG	GROUND WATER	GRAB		04/10/97	CFA	CFA-MON-003	AQUIFER WELL	"494	1	1	1	1	1		1													

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 AT5: Gamma Screen
 AT6: VOCs by GC/MS (8260) - MS/MSD
 AT7: VOCs by GC/MS (8260)
 AT8: _____
 AT9: _____
 AT10: _____

AT11: _____
 AT12: _____
 AT13: _____
 AT14: _____
 AT15: _____
 AT16: _____
 AT17: _____
 AT18: _____
 AT19: _____
 AT20: _____

Plan Table Number: OU4-12-LF-GW5

SAP Number:

Date: 12/17/96Plan Table Revision: 6.0

SAMPLING AND ANALYSIS PLAN TABLE FOR CHEMICAL AND RADIOLOGICAL ANALYSIS

Project: OU 4-12 POST ROD MONITORING-CFA LANDFILLS I/II/III-JUL 1997Project Manager: G. B. COTTENPage 1 of 1

Form No: SAP116

SAMPLE DESCRIPTION					PLANNED DATE	SAMPLE LOCATION				ENTER ANALYSIS TYPES (AT) AND QUANTITY REQUESTED																			
SAMPLING ACTIVITY	SAMPLE TYPE	MEDIA	COLL TYPE	SAMPLING METHOD		AREA	LOCATION	TYPE OF LOCATION	DEPTH (ft)	AT1	AT2	AT3	AT4	AT5	AT6	AT7	AT8	AT9	AT10	AT11	AT12	AT13	AT14	AT15	AT16	AT17	AT18	AT19	AT20
4MQ201	REG	GROUND WATER	GRAB		07/10/97	CFA	LF 2-8	AQUIFER WELL	"486	1	1	1	1	1		1													
4MQ202	REG	GROUND WATER	GRAB		07/10/97	CFA	LF 2-9	AQUIFER WELL	"486	1	1	1	1	1		1													
4MQ203	REG	GROUND WATER	GRAB		07/10/97	CFA	LF 2-11	AQUIFER WELL	"480	1	1	1	1	1	1														
4MQ204	REG/QC	GROUND WATER	DUP		07/10/97	CFA	LF 3-8	AQUIFER WELL	"503	2	2	2	2	1		2													
4MQ205	REG	GROUND WATER	GRAB		07/10/97	CFA	LF 3-9	AQUIFER WELL	"495	1	1	1	1	1		1													
4MQ206	REG	GROUND WATER	GRAB		07/10/97	CFA	LF 3-10	AQUIFER WELL	"494	1	1	1	1	1		1													
4MQ207	REG	GROUND WATER	GRAB		07/10/97	CFA	USGS-85	AQUIFER WELL	"514	1	1	1	1	1		1													
4MQ208	REG	GROUND WATER	GRAB		07/10/97	CFA	LF 2-10	AQUIFER WELL	"547	1	1	1	1	1		1													
4MQ209	QC	WATER	FBLK		07/10/97	CFA	QC	FIELD BLANK	N/A		1					1													
4MQ210	QC	WATER	RNST		07/10/97	CFA	QC	RINSATE	N/A	1	1	1	1			1													
4MQ211	QC	WATER	TBLK		07/10/97	CFA	QC	TRIP BLANK	N/A							2													
4MQ212	REG	GROUND WATER	GRAB		07/10/97	CFA	CFA-MON-001	AQUIFER WELL	"512	1	1	1	1	1		1													
4MQ213	REG	GROUND WATER	GRAB		07/10/97	CFA	CFA-MON-002	AQUIFER WELL	"512	1	1	1	1	1		1													
4MQ214	REG	GROUND WATER	GRAB		07/10/97	CFA	CFA-MON-003	AQUIFER WELL	"494	1	1	1	1	1		1													

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COMMENTS

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AT8: _____
AT9: _____
AT10: _____

AT11: _____
AT12: _____
AT13: _____
AT14: _____
AT15: _____
AT16: _____
AT17: _____
AT18: _____
AT19: _____
AT20: _____

Plan Table Number: OU4-12-LF-GW11

SAP Number:

Date: 12/17/96Plan Table Revision: 5.0

SAMPLING AND ANALYSIS PLAN TABLE FOR CHEMICAL AND RADIOLOGICAL ANALYSIS

Project: OU 4-12 POST ROD MONITORING-CFA LANDFILLS 1/11/111-JUL 2001Project Manager: G. B. COTTENPage 1 of 1

Form No: SAP118

SAMPLE DESCRIPTION					PLANNED DATE	SAMPLE LOCATION				ENTER ANALYSIS TYPES (AT) AND QUANTITY REQUESTED																			
SAMPLING ACTIVITY	SAMPLE TYPE	MEDIA	COLL TYPE	SAMPLING METHOD		AREA	LOCATION	TYPE OF LOCATION	DEPTH (ft)	AT1	AT2	AT3	AT4	AT5	AT6	AT7	AT8	AT9	AT10	AT11	AT12	AT13	AT14	AT15	AT16	AT17	AT18	AT19	AT20
4M0501	REG	GROUND WATER	GRAB		07/10/01	CFA	LF 2-8	AQUIFER WELL	~486	1	1		1																
4M0502	REG	GROUND WATER	GRAB		07/10/01	CFA	LF 2-9	AQUIFER WELL	~486	1	1		1																
4M0503	REG	GROUND WATER	GRAB		07/10/01	CFA	LF 2-11	AQUIFER WELL	~480	1	1	1																	
4M0504	REG/QC	GROUND WATER	DUP		07/10/01	CFA	LF 3-8	AQUIFER WELL	~503	2	1		2																
4M0505	REG	GROUND WATER	GRAB		07/10/01	CFA	LF 3-9	AQUIFER WELL	~495	1	1		1																
4M0506	REG	GROUND WATER	GRAB		07/10/01	CFA	LF 3-10	AQUIFER WELL	~494	1	1		1																
4M0507	REG	GROUND WATER	GRAB		07/10/01	CFA	USGS-85	AQUIFER WELL	~514	1	1		1																
4M0508	REG	GROUND WATER	GRAB		07/10/01	CFA	LF 2-10	AQUIFER WELL	~547	1	1		1																
4M0509	QC	WATER	FBLK		07/10/01	CFA	QC	FIELD BLANK	N/A	1			1																
4M0510	QC	WATER	RNST		07/10/01	CFA	QC	RINSATE	N/A	1			1																
4M0511	QC	WATER	TBLK		07/10/01	CFA	QC	TRIP BLANK	N/A				2																
4M0512	REG	GROUND WATER	GRAB		07/10/01	CFA	CFA-MON-001	AQUIFER WELL	~512	1	1		1																
4M0513	REG	GROUND WATER	GRAB		07/10/01	CFA	CFA-MON-002	AQUIFER WELL	~512	1	1		1																
4M0514	REG	GROUND WATER	GRAB		07/10/01	CFA	CFA-MON-003	AQUIFER WELL	~494	1	1		1																

The sampling activity displayed on this table represents the first six characters of the sample identification number.
The complete sample identification number (10 characters) will appear on field guidance forms and sample labels.

COMMENTS

AT1: CLP MetalsAT2: Gamma ScreenAT3: VOCs by GC/MS (8260) - MS/MSDAT4: VOCs by GC/MS (8260)

AT5: _____

AT6: _____

AT7: _____

AT8: _____

AT9: _____

AT10: _____

AT11: _____

AT12: _____

AT13: _____

AT14: _____

AT15: _____

AT16: _____

AT17: _____

AT18: _____

AT19: _____

AT20: _____

SAMPLE DESCRIPTION					SAMPLE LOCATION		ENTER ANALYSIS TYPES (AT) AND QUANTITY REQUESTED																						
SAMPLING ACTIVITY	SAMPLE TYPE	MEDIA	COLL TYPE	SAMPLING METHOD	PLANNED DATE	AREA	LOCATION	TYPE OF LOCATION	DEPTH (ft)	AT1	AT2	AT3	AT4	AT5	AT6	AT7	AT8	AT9	AT10	AT11	AT12	AT13	AT14	AT15	AT16	AT17	AT18	AT19	AT20
4H0250	REG	GROUND WATER	GRAB		10/10/97	CFA	LF 2-8	AQUIFER WELL	486	1	1	1	1	1	1	1													
4H0251	REG	GROUND WATER	GRAB		10/10/97	CFA	LF 2-9	AQUIFER WELL	486	1	1	1	1	1	1	1													
4H0252	REG	GROUND WATER	GRAB		10/10/97	CFA	LF 2-11	AQUIFER WELL	480	1	1	1	1	1	1	1													
4H0253	REG/QC	GROUND WATER	DUP		10/10/97	CFA	LF 3-8	AQUIFER WELL	503	2	2	2	2	1	1	2													
4H0254	REG	GROUND WATER	GRAB		10/10/97	CFA	LF 3-9	AQUIFER WELL	495	1	1	1	1	1	1	1													
4H0255	REG	GROUND WATER	GRAB		10/10/97	CFA	LF 3-10	AQUIFER WELL	494	1	1	1	1	1	1	1													
4H0256	REG	GROUND WATER	GRAB		10/10/97	CFA	USGS-85	AQUIFER WELL	514	1	1	1	1	1	1	1													
4H0257	REG	GROUND WATER	GRAB		10/10/97	CFA	LF 2-10	AQUIFER WELL	547	1	1	1	1	1	1	1													
4H0258	QC	WATER	FBLK		10/10/97	CFA	QC	FIELD BLANK	N/A		1					1													
4H0259	QC	WATER	RNST		10/10/97	CFA	QC	RINSE	N/A	1	1	1	1			1													
4H0260	QC	WATER	TBLK		10/10/97	CFA	QC	TRIP BLANK	N/A							2													
4H0261	REG	GROUND WATER	GRAB		10/10/97	CFA	CFA-MON-001	AQUIFER WELL	512	1	1	1	1	1	1	1													
4H0262	REG	GROUND WATER	GRAB		10/10/97	CFA	CFA-MON-002	AQUIFER WELL	512	1	1	1	1	1	1	1													
4H0263	REG	GROUND WATER	GRAB		10/10/97	CFA	CFA-MON-003	AQUIFER WELL	494	1	1	1	1	1	1	1													

The sampling activity displayed on this table represents the first six characters of the sample identification number.
 The complete sample identification number (10 characters) will appear on field guidance forms and sample labels.

COMMENTS

AT1: Alkalinity	AT11:	
AT2: CLP Metals	AT12:	
AT3: Chloride/Fluoride/Sulfate	AT13:	
AT4: Nitrate/Nitrite	AT14:	
AT5: Gamma Screen	AT15:	
AT6: VOCs by GC/MS (8260) - MS/MSD	AT16:	
AT7: VOCs by GC/MS (8260)	AT17:	
AT8:	AT18:	
AT9:	AT19:	
AT10:	AT20:	

Plan Table Number: OU4-12-LF-GW7

SAP Number:

Date: 12/17/96Plan Table Revision: 6.0

SAMPLING AND ANALYSIS PLAN TABLE FOR CHEMICAL AND RADIOLOGICAL ANALYSIS

Project: OU 4-12 POST ROD MONITORING-CFA LANDFILLS I/II/III-JAN 1998Project Manager: G. B. COTTENPage 1 of 1

Form No: SAP11B

SAMPLE DESCRIPTION					PLANNED DATE	SAMPLE LOCATION				ENTER ANALYSIS TYPES (AT) AND QUANTITY REQUESTED																			
SAMPLING ACTIVITY	SAMPLE TYPE	MEDIA	COLL TYPE	SAMPLING METHOD		AREA	LOCATION	TYPE OF LOCATION	DEPTH (ft)	AT1	AT2	AT3	AT4	AT5	AT6	AT7	AT8	AT9	AT10	AT11	AT12	AT13	AT14	AT15	AT16	AT17	AT18	AT19	AT20
										A1	C1	F3	N2	R5	VF	VG													
4M0301	REG	GROUND WATER	GRAB		01/10/98	CFA	LF 2-8	AQUIFER WELL	~486	1	1	1	1	1		1													
4M0302	REG	GROUND WATER	GRAB		01/10/98	CFA	LF 2-9	AQUIFER WELL	~486	1	1	1	1	1		1													
4M0303	REG	GROUND WATER	GRAB		01/10/98	CFA	LF 2-11	AQUIFER WELL	~480	1	1	1	1	1	1														
4M0304	REG/QC	GROUND WATER	DUP		01/10/98	CFA	LF 3-8	AQUIFER WELL	~503	2	2	2	2	1		2													
4M0305	REG	GROUND WATER	GRAB		01/10/98	CFA	LF 3-9	AQUIFER WELL	~495	1	1	1	1	1		1													
4M0306	REG	GROUND WATER	GRAB		01/10/98	CFA	LF 3-10	AQUIFER WELL	~494	1	1	1	1	1		1													
4M0307	REG	GROUND WATER	GRAB		01/10/98	CFA	USGS-85	AQUIFER WELL	~514	1	1	1	1	1		1													
4M0308	REG	GROUND WATER	GRAB		01/10/98	CFA	LF 2-10	AQUIFER WELL	~547	1	1	1	1	1		1													
4M0309	QC	WATER	FBLK		01/10/98	CFA	QC	FIELD BLANK	N/A		1					1													
4M0310	QC	WATER	RNST		01/10/98	CFA	QC	RINSATE	N/A	1	1	1	1			1													
4M0311	QC	WATER	TBLK		01/10/98	CFA	QC	TRIP BLANK	N/A							2													
4M0312	REG	GROUND WATER	GRAB		01/10/98	CFA	CFA-MON-001	AQUIFER WELL	~512	1	1	1	1	1		1													
4M0313	REG	GROUND WATER	GRAB		01/10/98	CFA	CFA-MON-002	AQUIFER WELL	~512	1	1	1	1	1		1													
4M0314	REG	GROUND WATER	GRAB		01/10/98	CFA	CFA-MON-003	AQUIFER WELL	~494	1	1	1	1	1		1													

The sampling activity displayed on this table represents the first six characters of the sample identification number. The complete sample identification number (10 characters) will appear on field guidance forms and sample labels.

COMMENTS

AT1: <u>Alkalinity</u>	AT11: _____	_____
AT2: <u>CLP Metals</u>	AT12: _____	_____
AT3: <u>Chloride/Fluoride/Sulfate</u>	AT13: _____	_____
AT4: <u>Nitrate/Nitrite</u>	AT14: _____	_____
AT5: <u>Gamma Screen</u>	AT15: _____	_____
AT6: <u>VOCs by GC/MS (8260) - MS/MSD</u>	AT16: _____	_____
AT7: <u>VOCs by GC/MS (8260)</u>	AT17: _____	_____
AT8: _____	AT18: _____	_____
AT9: _____	AT19: _____	_____
AT10: _____	AT20: _____	_____

Date: 12/17/96

SAMPLING AND ANALYSIS PLAN TABLE FOR CHEMICAL AND RADIOLOGICAL ANALYSIS

Project: OU 4-12 POST ROD MONITORING-CFA LANDFILLS 1/11/11-APR 1998

Project Manager: G. B. COTTEN

Page 1 of 1

Form No: SAP118

[illegible]

The sampling activity displayed on this table represents the first six characters of the sample identification number. The complete sample identification number (10 characters) will appear on field guidance forms and sample labels.

COMMENTS

AT1: Alkalinity

AT2: CLP Metals

AT3: Chloride/Fluoride/Sulfate

AT4: Nitrate/Nitrite

AT5: Gamma Screen

AT6: VOCs by GC/MS (8260) - MS/MSD

AT7: VOCs by GC/MS (8260)

AT8: _____

AT9: _____

AT10: _____

AT11: _____
AT12: _____
AT13: _____
AT14: _____
AT15: _____
AT16: _____
AT17: _____
AT18: _____
AT19: _____
AT20: _____

SAMPLE DESCRIPTION					SAMPLE LOCATION					ENTER ANALYSIS TYPES (AT) AND QUANTITY REQUESTED																			
SAMPLING ACTIVITY	SAMPLE TYPE	MEDIA	COLL TYPE	SAMPLING METHOD	PLANNED DATE	AREA	LOCATION	TYPE OF LOCATION	DEPTH (FT)	AT1	AT2	AT3	AT4	AT5	AT6	AT7	AT8	AT9	AT10	AT11	AT12	AT13	AT14	AT15	AT16	AT17	AT18	AT19	AT20
4HQ401	REG	GROUND WATER	GRAB		07/10/99	CFA	LF 2-8	AQUIFER WELL	~486	1	1		1																
4HQ402	REG	GROUND WATER	GRAB		07/10/99	CFA	LF 2-9	AQUIFER WELL	~486	1	1		1																
4HQ403	REG	GROUND WATER	GRAB		07/10/99	CFA	LF 2-11	AQUIFER WELL	~480	1	1	1																	
4HQ404	REG/OC	GROUND WATER	DUP		07/10/99	CFA	LF 3-8	AQUIFER WELL	~503	2	1		2																
4HQ405	REG	GROUND WATER	GRAB		07/10/99	CFA	LF 3-9	AQUIFER WELL	~495	1	1		1																
4HQ406	REG	GROUND WATER	GRAB		07/10/99	CFA	LF 3-10	AQUIFER WELL	~494	1	1		1																
4HQ407	REG	GROUND WATER	GRAB		07/10/99	CFA	USGS-85	AQUIFER WELL	~516	1	1		1																
4HQ408	REG	GROUND WATER	GRAB		07/10/99	CFA	LF 2-10	AQUIFER WELL	~547	1	1		1																
4HQ409	QC	WATER	FBLK		07/10/99	CFA	QC	FIELD BLANK	N/A	1			1																
4HQ410	QC	WATER	RHST		07/10/99	CFA	QC	RINSATE	N/A	1			1																
4HQ411	QC	WATER	TBLK		07/10/99	CFA	QC	TRIP BLANK	N/A				2																
4HQ412	REG	GROUND WATER	GRAB		07/10/99	CFA	CFA-MON-001	AQUIFER WELL	~512	1	1		1																
4HQ413	REG	GROUND WATER	GRAB		07/10/99	CFA	CFA-MON-002	AQUIFER WELL	~512	1	1		1																
4HQ414	REG	GROUND WATER	GRAB		07/10/99	CFA	CFA-MON-003	AQUIFER WELL	~494	1	1		1																

The sampling activity displayed on this table represents the first six characters of the sample identification number. The complete sample identification number (10 characters) will appear on field guidance forms and sample labels.

COMMENTS

AT1: GLP Metals	AT11:
AT2: Gamma Screen	AT12:
AT3: VOCs by GC/MS (8260) - MS/MSD	AT13:
AT4: VOCs by GC/MS (8260)	AT14:
AT5:	AT15:
AT6:	AT16:
AT7:	AT17:
AT8:	AT18:
AT9:	AT19:
AT10:	AT20:

Plan Table Number: OU4-12-LF-GW10

SAP Number:

Date: 12/17/96 Plan Table Revision: 5.0

SAMPLING AND ANALYSIS PLAN TABLE FOR CHEMICAL AND RADIOLOGICAL ANALYSIS

Project: OU 4-12 POST ROD MONITORING-CFA LANDFILLS I/II/III-JUL 2000Project Manager: G. B. COTTENPage 1 of 1Form No: SAP118

SAMPLE DESCRIPTION					PLANNED DATE	SAMPLE LOCATION				ENTER ANALYSIS TYPES (AT) AND QUANTITY REQUESTED																			
SAMPLING ACTIVITY	SAMPLE TYPE	MEDIA	COLL TYPE	SAMPLING METHOD		AREA	LOCATION	TYPE OF LOCATION	DEPTH (ft)	AT1	AT2	AT3	AT4	AT5	AT6	AT7	AT8	AT9	AT10	AT11	AT12	AT13	AT14	AT15	AT16	AT17	AT18	AT19	AT20
										C1	R5	VF	VG																
4MQ450	REG	GROUND WATER	GRAB		07/10/00	CFA	LF 2-8	AQUIFER WELL	~486	1	1		1																
4MQ451	REG	GROUND WATER	GRAB		07/10/00	CFA	LF 2-9	AQUIFER WELL	~486	1	1		1																
4MQ452	REG	GROUND WATER	GRAB		07/10/00	CFA	LF 2-11	AQUIFER WELL	~480	1	1	1																	
4MQ453	REG/OC	GROUND WATER	DUP		07/10/00	CFA	LF 3-8	AQUIFER WELL	~503	2	1		2																
4MQ454	REG	GROUND WATER	GRAB		07/10/00	CFA	LF 3-9	AQUIFER WELL	~495	1	1		1																
4MQ455	REG	GROUND WATER	GRAB		07/10/00	CFA	LF 3-10	AQUIFER WELL	~494	1	1		1																
4MQ456	REG	GROUND WATER	GRAB		07/10/00	CFA	USGS-85	AQUIFER WELL	~514	1	1		1																
4MQ457	REG	GROUND WATER	GRAB		07/10/00	CFA	LF 2-10	AQUIFER WELL	~547	1	1		1																
4MQ458	QC	WATER	FBLK		07/10/00	CFA	QC	FIELD BLANK	N/A	1			1																
4MQ459	QC	WATER	RNST		07/10/00	CFA	QC	RINSATE	N/A	1			1																
4MQ460	QC	WATER	TBLK		07/10/00	CFA	QC	TRIP BLANK	N/A				2																
4MQ461	REG	GROUND WATER	GRAB		07/10/00	CFA	CFA-MON-001	AQUIFER WELL	~512	1	1		1																
4MQ462	REG	GROUND WATER	GRAB		07/10/00	CFA	CFA-MON-002	AQUIFER WELL	~512	1	1		1																
4MQ463	REG	GROUND WATER	GRAB		07/10/00	CFA	CFA-MON-003	AQUIFER WELL	~494	1	1		1																

The sampling activity displayed on this table represents the first six characters of the sample identification number.
The complete sample identification number (10 characters) will appear on field guidance forms and sample labels.

COMMENTS

AT1: <u>CLP Metals</u>	AT11: _____	
AT2: <u>Gamma Screen</u>	AT12: _____	
AT3: <u>VOCs by GC/MS (8260) - MS/MSD</u>	AT13: _____	
AT4: <u>VOCs by GC/MS (8260)</u>	AT14: _____	
AT5: _____	AT15: _____	
AT6: _____	AT16: _____	
AT7: _____	AT17: _____	
AT8: _____	AT18: _____	
AT9: _____	AT19: _____	
AT10: _____	AT20: _____	